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ABSTRACT

This curriculum unit, suitable for advanced placement high school courses or introductory level college courses, explores Hungarian fertility and mortality rates and their social and economic consequences. Students are required to map, graph, analyze, and summarize demographic data to examine population trends in Hungary in the post-World War 2 era. Noting that developed countries have different population issues than those in less developed countries, the unit points out that Hungary is a nation in which mortality exceeds fertility. The unit cites Bulgaria, Estonia, Croatia, Lithuania, Germany, Italy, Romania, and the Ukraine as other nations in which the population has fallen in the 1990s. The unit is divided into the following parts: (1) "Comparing Birth and Death Rates for Central and Eastern European Nations, 1998"; (2) "Hungary's Historical Demographic Experience, 1946-1998"; and (3) "Age Distribution." (Contains 4 figures, 5 tables of data, 8 cited references, 3 other references, discussion questions, and more figures, labeled A-F). (BT)

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RECENT TRENDS IN FERTILITY AND MORTALITY IN HUNGARY: A CURRICULUM UNIT

CURRICULUM PROJECT
FULBRIGHT-HAYS SEMINAR ABROAD
HUNGARY-POLAND
1998

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OBJECTIVES: To explore trends in fertility and mortality, and their social and economic consequences, in Hungary. Students are required to map, graph, analyze, and summarize demographic data in order to examine population processes in the post-WWII period.

INTENDED LEVEL: This curriculum unit is suitable for advanced placement high school courses or introductory level university courses.

BACKGROUND NOTES: When demographic issues are discussed in the classroom, emphasis is often on the less developed nations where fertility far outpaces mortality and natural increase is large. Such discussions are often framed in the context of the Demographic Transition or Malthusian (or neo-Malthusian) models. For many less developed nations, the balance between population growth and economic growth is a critical one in that the former outstrips the latter, leading to continued poverty for much of the population. Further, because of population momentum processes, the very large cohorts of the very young threaten to exacerbate these nations' problems in the years to come.

For the more developed countries, however, the critical demographic issues are very different. In many of these countries, the population is aging, death rates are rising and birthrates have fallen; issues such as replacing the labor force, caring for the growing cohort of elderly, and continued support for social programs are of more concern. A number of countries in Europe are moving into this situation.

Hungary is a nation in which mortality exceeds fertility. It serves as a case study in which students can examine the data and undertake informed analyses about the demographic (and social and political and economic) present and future of nations with potentially declining populations. Other nations in which the population has fallen in this decade are Bulgaria, Estonia, Croatia, Lithuania, Germany, Italy, Romania, and Ukraine.

PART I: COMPARING BIRTH AND DEATH RATES FOR CENTRAL AND EASTERN EUROPEAN NATIONS: 1998

CRUDE BIRTHRATES AND CRUDE DEATH RATES DEFINED:
The crude birthrate and crude death rate are summary measures that allow us to compare differences in demographic processes among nations. The general formulae are as follows:

CRUDE BIRTHRATE (CBR) = (#births/total population) x 1000

CRUDE DEATH RATE (CDR) = (#births/total population) x 1000

These rates are called 'crude' because they do not do a very good job at defining the population at risk to giving birth or to dying.

Common sense tells us that not everyone in a population has an equal chance of bearing a child in a given year. Males, prepubescent females and women past menopause, for example, are highly unlikely to bear a child. Similarly, younger women in their 20s have higher rates of childbearing than older women in their 40s. We could cite similar differences having to do with age and sex for risk of dying. Because of these sorts of differences, and because populations vary with respect to their age and sex distributions, crude birth and death rates provide only a general summary of fertility and mortality experiences. Nevertheless, they are useful for general comparisons.

A measure related to the CBR and the CDR is natural increase. Natural increase is simply the annual percentage of population gain (or decline) that is due to the balance between births and deaths. It does not take population change due to migration into account. Rate of natural increase may be calculated as follows:

RATE OF NATURAL INCREASE (RNI) =(CBR-CDR) / 10

EXAMINING NATURAL INCREASE IN CENTRAL AND EASTERN EUROPE:

These three measures are shown in Table 1 for the nations of eastern and central Europe (arbitrarily defined). After you have looked at the data in the table, complete the activities and answer the questions below:

1. On the map provided, locate each of the nations in Table 1. Do the countries in this region appear to have a common demographic experience? Why or why not?

2. Divide these nations into two groups, those with a declining rate of natural increase (i.e., a value <0), and all others. Are there any patterns that emerge with respect to where nations with negative natural increase are located?

3. Is Hungary unique with respect to its rate of natural increase? Speculate about some of the reasons that nations may experience declining natural increase.

4. Compare Hungary's crude birth rate with crude birth rates for the other Central and Eastern European nations? Is it higher or lower than the other nations? What about Hungary's crude death rate? How does it compare?

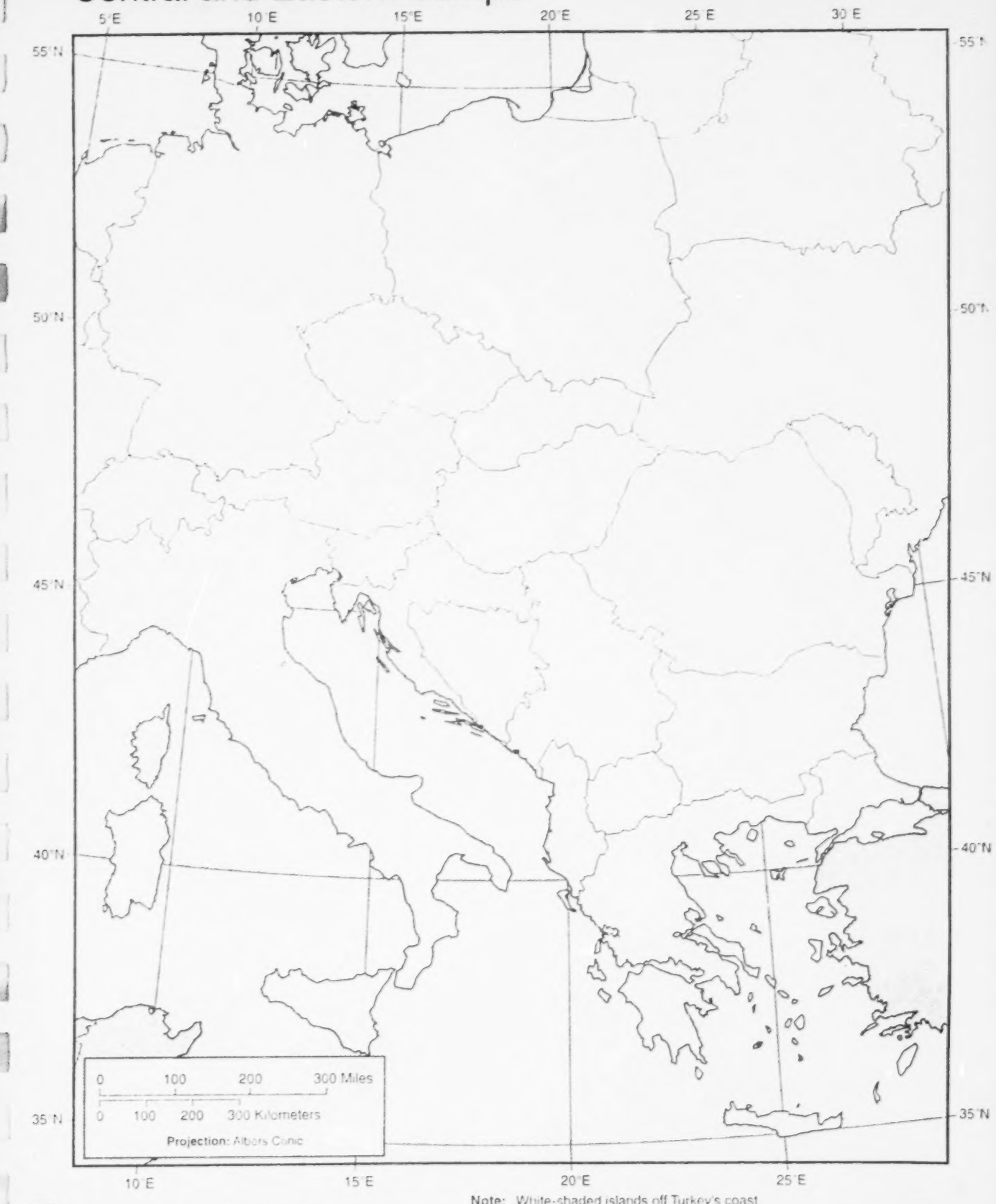
Table 1. Crude Birth and Death Rates for Central and Eastern European Nations, 1998.

Nation	CBR	CDR	Natural Increase
Albania	17	5	1.2
Austria	11	10	0.1
Belarus	9	13	-0.4
Bosnia-Herzegovina	13	7	0.6
Bulgaria	9	14	-0.5
Croatia	12	11	0.1
Czech Republic	9	11	-0.2
Germany	10	10	-0.1
Greece	10	10	0
Hungary	**10**	**14**	**-0.4**
Macedonia	16	8	0.8
Moldova	12	12	0.1
Poland	11	10	0.1
Romania	10	12	-0.2
Slovakia	11	10	0.2
Slovenia	9	9	0
Ukraine	9	15	-0.6
Yugoslavia	13	11	0.2

Source: Population Reference Bureau 1998

Central and Eastern Europe

Figure 1



Note: White-shaded islands off Turkey's coast are considered part of Europe because they are under Greece's rule.

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PART II. HUNGARY'S HISTORICAL DEMOGRAPHIC EXPERIENCE: 1946-1998

In order to look at whether Hungary's negative natural increase is a recent phenomenon, it is useful to look at longer term data concerning births and deaths.

A. HUNGARIAN FERTILITY

Table 2 shows annual crude birth rates for the period from 1946-1997.

Table 2. Crude Birth Rates, Hungary, 1946-1997

Year	CBR	1963	13.1	1981	13.3
1946	18.7	1964	13.1	1982	12.5
1947	20.6	1965	13.1	1983	11.9
1948	21	1966	13.6	1984	11.8
1949	20.6	1967	14.6	1985	12.3
1950	20.9	1968	15.1	1986	12.2
1951	20.2	1969	15	1987	12
1952	19.6	1970	14.7	1988	11.9
1953	21.6	971	14.5	1989	11.9
1954	23	1972	14.7	1990	12.1
1955	21.4	1973	15	1991	12.3
1956	19.5	1974	17.8	1992	11.8
1957	17	1975	18.4	1993	11.4
1958	16	1976	17.5	1994	11.3
1959	15.2	1977	16.7	1995	11
1960	14.7	1978	15.8	1996	10.3
1961	14	1979	15	1997	9.9
1962	12.9	1980	13.9		

Sources: Klinger 1984; Central Statistical Office 1996, 1998.

Complete the following:

1. Using graph paper, graph the data in Table 2 with the x axis showing year and the y axis showing the crude birth rate.

2. What has been the general trend in Hungarian fertility since WWII? Have there been any periods of exception to the general trend? If so, when did they occur?

3. After World War II, most of the nations in Europe and North America underwent a baby boom. In the United States, for example, the baby boom is generally considered to have lasted from 1946-1964. Did Hungary have a baby boom after WWII? If so, approximately what years did it cover?

4. Considering the general trend in fertility, what do you expect will happen with respect to Hungarian fertility over the next 10-15 years and why?

5. Table 3 presents a summary of Hungarian fertility related population policies. Compare the timing of population policy with the timing of increases and/or decreases in fertility.

6. Do population policies appear to have any effect on birth rates in Hungary?

7. If you were in charge of population policy in Hungary, what recommendations would you make to bring about an increase in fertility rates?

Table 3. Selective Summary of Post-WWII Hungarian Population Policies Regarding Fertility

1953: availability and accessibility of contraceptives restricted; legal induced abortions restricted; increase in maternity beds and childcare institutions
1956: abortion on request introduced
1965-66: increases in child allowances for couples with 2 or more children
1967: introduction of childcare allowance until the child is 2 ½ years old; additional leave for mothers with 3 or more children; reduction in working time for breast-feeding; introduction of the first oral contraceptive
1969: lengthening the period of the childcare allowance until child is age 3
1973: increase in financial assistance to families (i.e., maternity benefit and family allowance); preferential treatment in housing policy for young married couples and families with 3 or more children
1974: new regulations to limit abortions. Abortions are allowed: (1) for health reasons; (2) if the woman is not married; (3) if pregnancy results from a crime; (4) if there is no separate dwelling; (5) if the woman has 3 children; (6) if the woman is 35 or older; (7) for other serious social reasons. Differentiation of amount of childcare allowance by number of children; extension of additional leave to one- and two-child mothers; increase of the maternity benefit
1979: increase in the amount of family allowance; increase in the age limit to 40 years for abortions

1982: decrease of the age limit to 35 years for abortions; after child is age 1 ½, mother may take part time job but continue to receive childcare benefits; introduction of new, but lower, family allowance for one-child families
1984: maternity fee introduced: working mother granted a fixed proportion of her previous income after the first 20 weeks until the child reaches 18 months of age; after maternity fee, mother entitled to childcare allowance which permits her to stay home and receive a fixed monthly amount until child reaches age 3; legal age at marriage increased to age 18
1995: family benefits include: (1) 168 days of full salary for employed women in the immediate pre- and post-natal period; (2) a child care allowance of two year's duration of an amount equal to a fixed percent of the mother's salary; (3) a fixed-sum child care allowance payable to former working women until the child reaches age 3; (4) a pregnancy allowance provided from the fourth month of pregnancy (identical in amount to the family allowance that is received after the birth of the child); (5) child-rearing support for non-working mothers who have three or more children, payable until the youngest child is eight years old (in an amount equal to the lowest old age pension). The payment of family allowances is limited to families with incomes under a defined level.

Sources: Andorka and Vokovich 1985; Klinger 1984; Miltenyi 1992; Molnar 1997; United Nations 1989.

B. HUNGARIAN MORTALITY:

In most of the world, since the end of World War II, mortality has declined due to the introduction of modern medical techniques, improved nutrition and improved sanitation. This held true for Hungary as well until the mid-1960s.

Table 4. Crude Death Rates, Hungary, 1960-1997

Year	CDR					
1960	10.2	1972	11.4	1985	14
1961	9.6	1973	11.8	1986	14
1962	10.8	1974	12	1987	13.6
1963	9.9	1975	12.4	1988	13.4
1964	10	1976	12.5	1989	13.9
1965	10.7	1977	12.4	1990	14.1
1966	10	1978	13.1	1991	14
1967	10.7	1979	12.8	1992	14.4
1968	11.2	1980	13.6	1993	14.6
1969	11.4	1981	13.5	1994	14.3
1970	11.6	1982	13.5	1995	14.2
1971	11.9	1983	13.9	1996	14
		1984	13.8	1997	13.7

Sources: Central Statistical Office 1996, 1998.

Using the data in Table 4:

1. Using the same sheet of graph paper as you used to graph crude birthrates, graph these data with the x axis showing year and the y axis showing the crude death rate. Use a different color so that you can tell the two sets of data apart.

2. What has been the general trend in Hungarian mortality since 1960? Have there been any periods of exception to the general trend? If so, when did they occur? When did fertility rates dip below mortality rates?

3. Since World War II, most of the nations of the world have undergone declines in mortality. Is the same true for Hungary?

4. Considering the general trend in mortality, what do you expect will happen with respect to Hungarian mortality over the next 10-15 years and why?

While the crude death rate has risen since 1960, it is not true that the death rate for all age groups has followed suit. One age-specific measure that is often used to gauge standards of living in a country is the infant mortality rate. The rate of infant deaths is often taken to be an indicator of health status of an area, including such things as the quality of pre-natal care, medical infrastructure, and sanitary conditions. Higher rates generally indicate lower standards of living; lower rates generally indicate higher standards of living. The infant mortality rate is calculated as:

INFANT MORTALITY RATE (IMR) =
(# deaths to infants aged 0-1/total number of live births) x 1000

Table 5 shows Hungary's infant mortality rate since 1960.

Table 5. Infant Mortality Rate, Hungary, 1960-1997

Year	IMR	1972	33.2	1985	20.4
1960	47.6	1973	33.8	1986	19
1961	44.1	1974	34.3	1987	17.3
1962	47.9	1975	32.8	1988	15.8
1963	42.9	1976	29.8	1989	15.7
1964	40	1977	26.2	1990	14.8
1965	38.8	1978	24.4	1991	15.6
1966	38.4	1979	24	1992	14.1
1967	37	1980	23.2	1993	12.5
1968	35.8	1981	20.8	1994	11.5
1969	35.7	1982	20	1995	10.7
1970	35.9	1983	19	1996	10.9
1971	35.1	1984	20.4	1997	9.9

Source: Central Statistical Office 1996, 1998.

5. Graph the infant mortality data from Table 5.

6. Does the trend in infant mortality mirror the general mortality trend in Hungary? Why or why not?

7. What does the trend in infant mortality tell you about general health care conditions in Hungary over the period graphed?

If you were to look at causes of death among Hungarians in 1995, you would find that over half of deaths were caused by: malignant neoplasms of trachea, bronchus and lung (5% of all deaths), heart diseases (21%), cerebrovascular disease (14%), bronchitis, emphysema and asthma (3%), cirrhosis of the liver (6%), motor vehicle traffic accidents (1%), and suicide and self-inflicted injuries (2%) (Central Statistical Office 1996).

8. Does the cause of death information help you to determine why death rates might have risen in recent years? What hypotheses might you generate about mortality in modern Hungary given the information about causes of death?

PART III. AGE DISTRIBUTION

Population pyramids are a graphical technique that demographers use to look at the age and sex distribution of a population. As was noted in Part I, the age and sex distribution of a population can have a significant impact on birth and death rates. But it is also important for other social and economic issues. For example, if there are many very young people in a population, the society must build and run schools and other institutions to accommodate them. Conversely, a very large older segment of the population may require social programs to care for the elderly as well as medical and other facilities to deal with chronic health problems.

Population pyramids (and data) for Hungary in 1972, 1980 and 1996 are included as Figures 2, 3, and 4. After examining the pyramids, answer the following:

1. Describe the shape of the 1996 pyramid. Pay attention to the relative sizes of varying age groups.

2. Look at the pyramids for 1972 and 1980. If the pyramids for earlier years differ from that for 1996, describe the differences you observe. Does there appear to be a consistent trend in the age and sex distribution of the Hungarian population over the last 25 years or so?

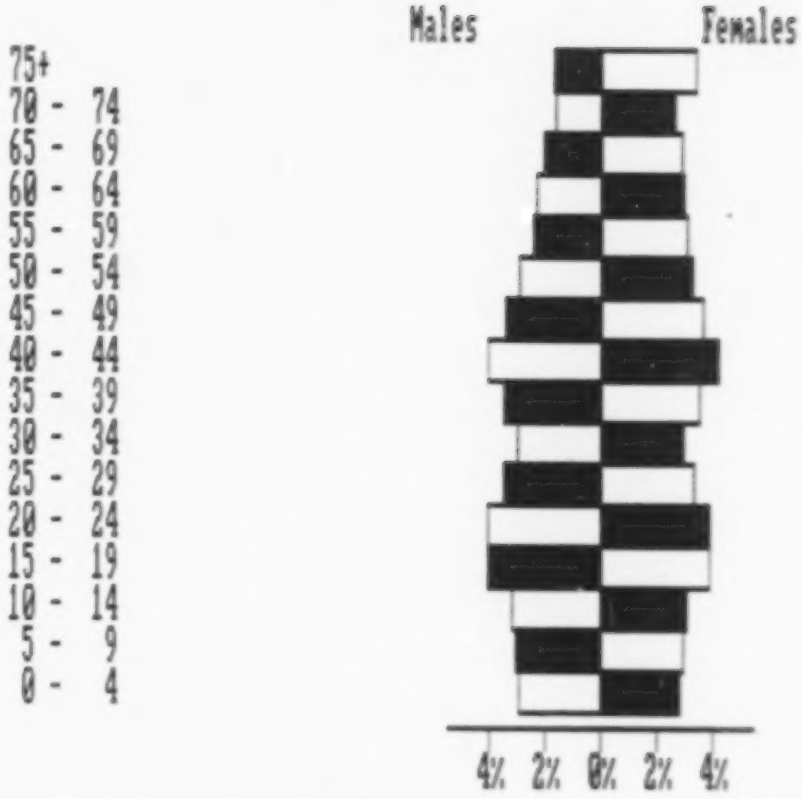
Until 1996, Hungarian women aged 55 and older, and Hungarian men aged 60 and older, with at least 20 years of ensured employment, were eligible for a

Figure 2

Hungary 1996

Age Group	Total	Males	% Males	Females	% Females
0 - 4	585,607	300,083	2.94	285,524	2.80
5 - 9	613,263	313,516	3.07	299,747	2.94
10 - 14	637,607	325,919	3.19	311,688	3.05
15 - 19	809,383	414,132	4.06	395,251	3.87
20 - 24	809,543	414,748	4.06	394,795	3.87
25 - 29	695,465	354,698	3.47	340,767	3.34
30 - 34	603,961	304,850	2.99	299,111	2.93
35 - 39	713,676	355,968	3.49	357,708	3.50
40 - 44	842,913	416,166	4.08	426,747	4.18
45 - 49	721,481	352,135	3.45	369,346	3.62
50 - 54	632,711	300,347	2.94	332,364	3.25
55 - 59	561,549	251,562	2.46	309,987	3.04
60 - 64	535,276	233,861	2.29	301,415	2.95
65 - 69	504,891	209,873	2.06	295,018	2.89
70 - 74	433,178	166,780	1.63	266,398	2.61
75+	511,796	169,278	1.66	342,518	3.35
Total:	10,212,300	4,883,916	47.82	5,328,384	52.18

Source: Central [illegible]



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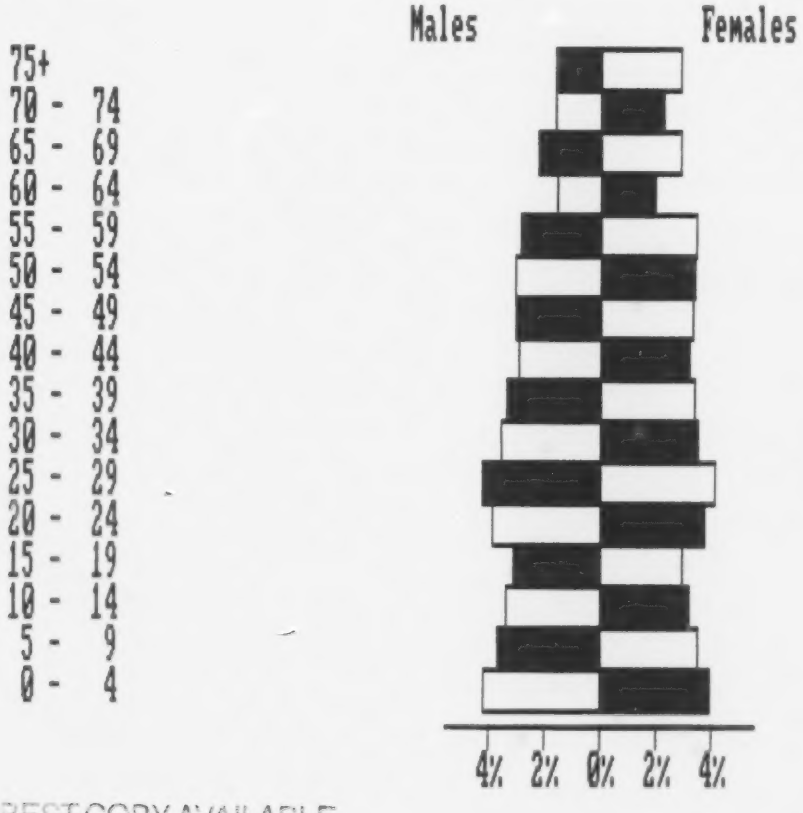
Total Population: 10,212,300 Hungary 1996

Figure 3

Hungary 1980

Age Group	Total	Males	% Males	Females	% Females
0 - 4	865,704	445,315	4.16	420,389	3.93
5 - 9	772,680	397,569	3.71	375,111	3.50
10 - 14	702,789	362,508	3.38	340,281	3.18
15 - 19	650,492	334,752	3.13	315,740	2.95
20 - 24	813,917	415,158	3.88	398,759	3.72
25 - 29	891,551	452,175	4.22	439,376	4.10
30 - 34	755,987	381,314	3.56	374,673	3.50
35 - 39	720,569	358,551	3.35	362,018	3.38
40 - 44	651,984	313,383	2.93	338,601	3.16
45 - 49	685,447	331,180	3.09	354,267	3.31
50 - 54	694,238	330,402	3.09	363,836	3.40
55 - 59	673,973	308,628	2.88	365,345	3.41
60 - 64	380,686	170,481	1.59	210,205	1.96
65 - 69	547,372	238,087	2.22	309,285	2.89
70 - 74	416,237	172,785	1.61	243,452	2.27
75+	485,837	176,421	1.65	309,416	2.89
Total:	10,709,463	5,188,709	48.45	5,520,754	51.55

Source: Central Statistical Office 1996



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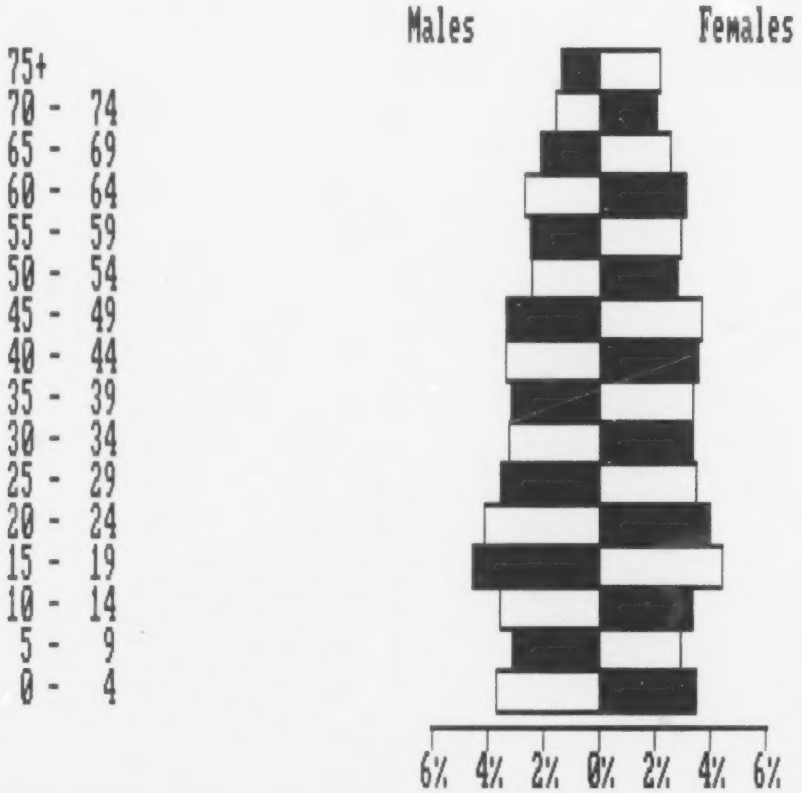
Total Population: 10,709,463 Hungary 1980

Figure 4

Hungary 1972

Age Group	Total	Males	% Males	Females	% Females
0 - 4	746,000	384,536	3.70	361,464	3.48
5 - 9	633,000	324,615	3.12	308,385	2.97
10 - 14	720,000	367,347	3.53	352,653	3.39
15 - 19	935,000	477,041	4.59	457,959	4.41
20 - 24	843,000	427,919	4.12	415,081	3.99
25 - 29	737,000	370,352	3.56	366,648	3.53
30 - 34	690,000	338,235	3.25	351,765	3.38
35 - 39	684,000	332,039	3.20	351,961	3.39
40 - 44	724,000	353,171	3.40	370,829	3.57
45 - 49	735,000	350,000	3.37	385,000	3.70
50 - 54	551,000	256,279	2.47	294,721	2.84
55 - 59	560,000	256,881	2.47	303,119	2.92
60 - 64	604,000	277,064	2.67	326,936	3.15
65 - 69	484,000	218,018	2.10	265,982	2.56
70 - 74	374,000	161,905	1.56	212,095	2.04
75+	372,000	143,077	1.38	228,923	2.20
Total:	10,392,000	5,038,479	48.48	5,353,521	51.52

Source: Keefe et al. 1973



Total Population: 10,392,000 Hungary 1972

government pension. In 1996, the Hungarian Parliament decreed a gradual increase in age for pension eligibility to eventually reach age 62 for both sexes.

3. Consider the age composition shown in the 1996 pyramid. Approximately what proportion of the population might be eligible for a government pension (60 and over)? Approximately what proportion of the population is of working age (15-59)? What proportion of the population is very young (0-14)?

4. If current trends in fertility and mortality continue, what do you think will happen to the youngest age group in proportion to the others? Why? What do you think will happen to size of the working age population and why? What do you think will happen to the size of the older population and why?

5. What impacts might these trends in age distribution have on Hungary now and in the future? How might it affect the standard of living of the population? How might it affect taxation policy? How might it affect the healthcare system? How might it affect other social programs?

REFERENCES CITED:

Andorka, Rudolf, and György Vukovich, 1985, The Impact of Population Policy on Fertility in Hungary, 1960-1080. *Proceedings of the International Population Conference, Volume 3.* Florence, Italy: International Union for the Scientific Study of Population.

Central Statistical Office, 1996, *Statistical Yearbook of Hungary 1995.* Budapest: Central Statistical Office.

Central Statistical Office, 1998, Table 6.01. Population, vital statistics. http://www.ksh.hu/eng/free/e6eves/e601.html (25 August 1998)

Keefe, Eugene K. and Lyle E. Brenneman, William Giloane, Anne K. Long, James M. Moore, Neda A. Walpole, 1973. *Area Handbook for Hungary.* Washington, DC: US Government Printing Office.

Klinger, András, 1984, *The Impact of Policy Measures, other than Family Planning Programmes on Fertility (The use of the Hungarian Longitudinal Studies)*, Research Reports of the Demographic Research Institute 18. Budapest: Hungarian Central Statistical Office.

Miltényi, Károly, 1992, Population Policy and Recent Changes in Hungary. *Materialien zur Bevölkerungswissenschaft Issue 75.*

Molnár, Éva (editor), 1997, *Hungary: Essential Facts, Figures & Pictures.* Budapest: MTI Corporation

Population Reference Bureau, 1998, *1998 World Population Data Sheet.* Washington, DC: Population Reference Bureau.

OTHER USEFUL REFERENCES:

Population Reference Bureau World Population Data Sheet (published annually) provides demographic data and population estimates for the nations and regions of the world. In addition, PRB publishes a series of "Population Bulletins" which are of topical interest. They may be reached via their web site at http:\\www.prb.org, or at 1875 Connecticut Ave, NW, Suite 520, Washington DC 20009.

For more discussion of the demographic issues raised here, and others, in a format accessible to general readers: Central Statistical Office, 1996, *Main Features of the Hungarian Demographic Situation in the Early Nineties 1995.* Budapest. Available from the Statistical Special Book Shop, 1024 Budapest, Keleti Károly utca 10 or may be ordered on-line at: http://www.ksh.hu/eng/homeng.html

For a general, readable history of Hungary: Lázár, István, 1993, *Hungary—A Brief History.* Budapest: Corvina. Available from: Corvina Books, Vörösmarty Tér 1, H-1051, Hungary, or on-line at: http://www.hungary.com/corvinus/lazar

DISCUSSION OF QUESTIONS (FOR TEACHERS):

PART I.

1. See Figure A. All of the nations of Central and Eastern Europe have relatively low growth rates by world standards. Those nations with sizeable Moslem populations (Albania, Macedonia and Bosnia-Herzegovina) tend to have higher rates of growth than their neighbors.

2. See Figure A. There appears to be a band of countries in Eastern Europe with negative growth. In Central Europe, Hungary, the Czech Republic and Germany also have negative natural increase.

3. Hungary is not unique. Religious and other cultural values as well as economic conditions can affect the desire to have children, and by extension, birth rates. Changes in the healthcare infrastructure, lifestyle changes, and economic conditions can affect death rates. Both death and birth rates are affected by the age structure of the population.

4. Hungary's CBR is on the lower end when compared with its neighbors. Hungary's CDR is on the higher end when compared with its neighbors. Both measures are within the range of values for Central and Eastern European nations, however.

PART II.

A. Fertility

1. See Figure B.

2. In general, fertility has fallen in Hungary since the end of World War II. There was a slight increase just after the war which peaked in 1954. There was a second short-lived increase in the early 1970s.

3. There was a slight up-turn in birthrates after the war. Fertility rates peaked in 1954 and began to decline thereafter. Hungary's baby boom was neither very marked nor very long.

4.

5.

6. Population policies appear to have had little effect on birthrates. The possible exception is in 1973-1974.

7.

B: Mortality

1. See Figures C and D.

2. Mortality has increased slowly, but steadily, since 1960. There have been no major exceptions to the trend. Fertility rates dipped below mortality rates in 1981 and have remained lower since then.

3. No, while there were some initial declines (not shown using data given), the general trend in mortality has be contrary to trends in other nations.

4.

5. See Figure E.

6. No. Infant mortality has sharply declined while the general trend in all deaths has been an increase. (See Figure F)

7. General health status seems to have improved since WWII, based on infant mortality trends.

8. Lifestyle seems to be an important factor in the increasing mortality rates. For example, the importance of such causes of death as cancer of the throat and lung, emphysema and related diseases suggests that there are high rates of smoking in Hungary; the large numbers of people dying from cirrhosis of the liver suggests that alcohol abuse is also an issue.

PART III.

1. This shape of pyramids is called by demographers "stationary". There are roughly the name numbers of people in all age ranges, with a slight tapering off at the older ages. As in most populations, there are more older females than males, since life expectancy for women exceeds that of men.

2. The shape of all three pyramids is very similar. There are slight differences in numbers at various ages as slightly larger age cohorts age over time and shift location in the pyramids.

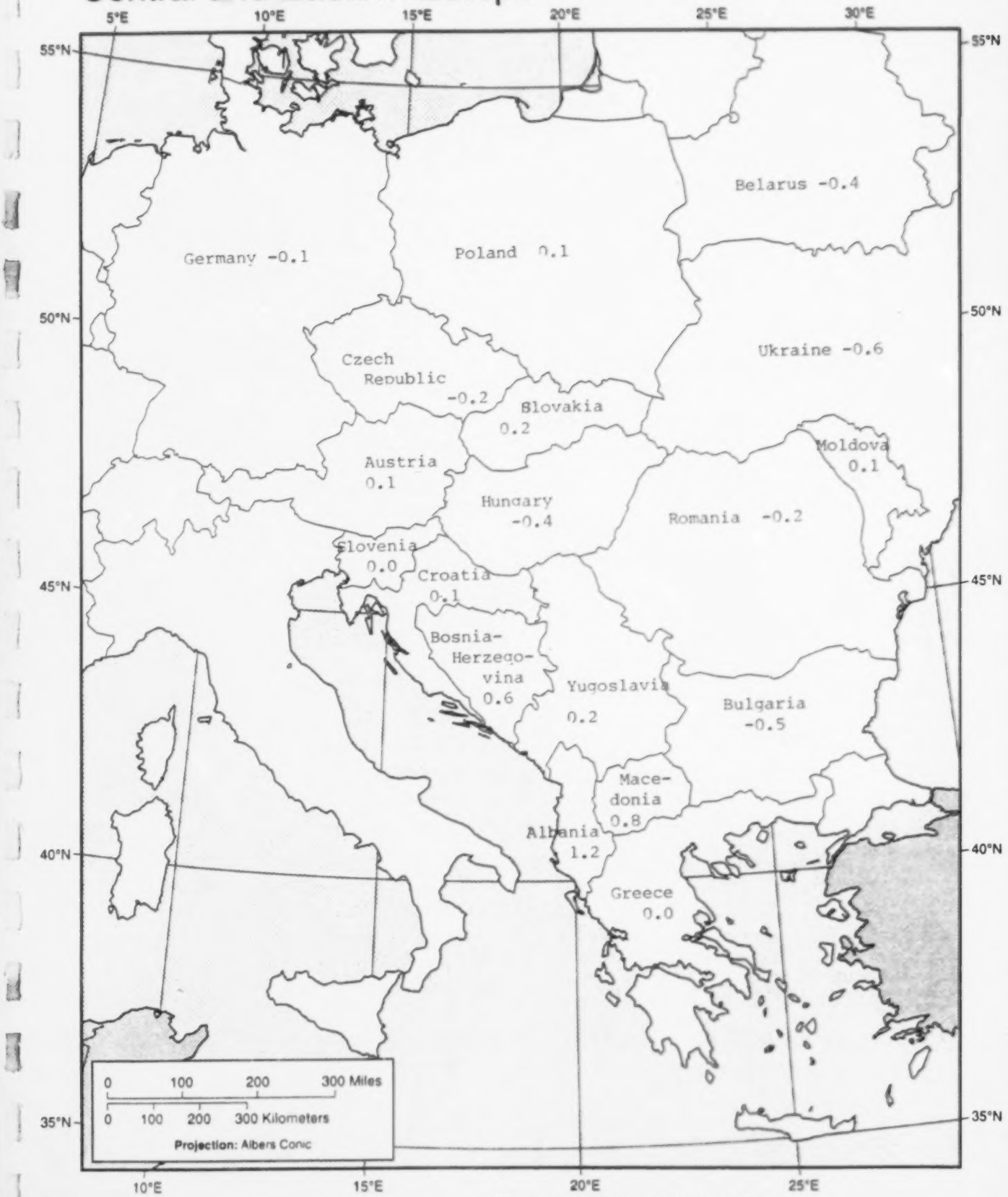
3. 0-14 year olds comprise approximately 18% of the population; 15-59 year olds account for approximately 63% of the population; those aged 60 and older are 19% of the population. That means that the non-working population is more than half the size of the working age population.

4.

5.

Central and Eastern Europe

Figure A



Note: White-shaded islands off Turkey's coast are considered part of Europe because they are under Greece's rule.

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ARIZONA GEOGRAPHIC ALLIANCE

Crude Birth Rate, Hungary, 1946-1997
births per 1000 population
25
20
15
10
5
0
1946
1948
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
year
CBR

Figure 8

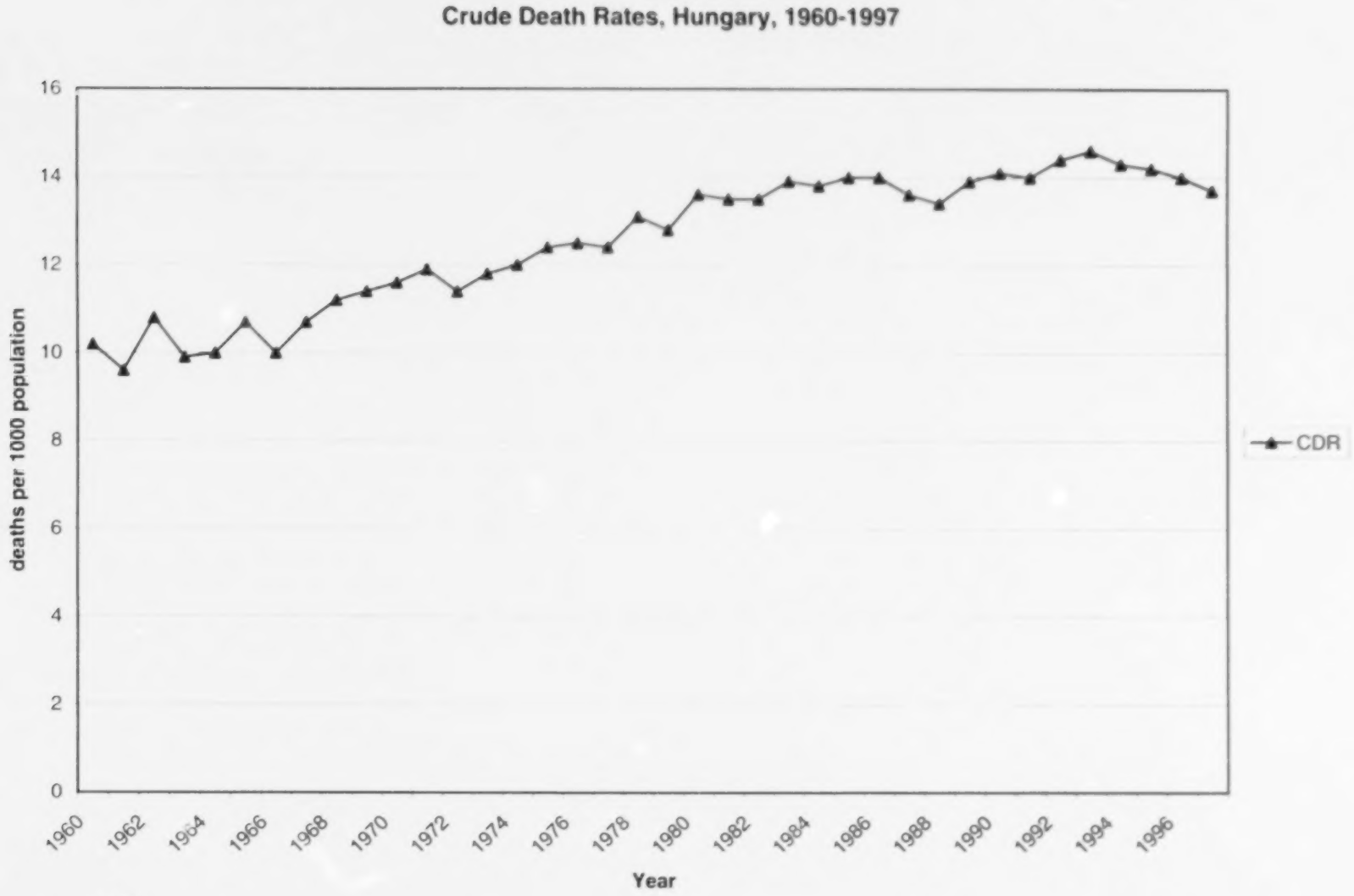

Crude Death Rates, Hungary, 1960-1997
deaths per 1000 population
16
14
12
10
8
6
4
2
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year
CDR

Figure C

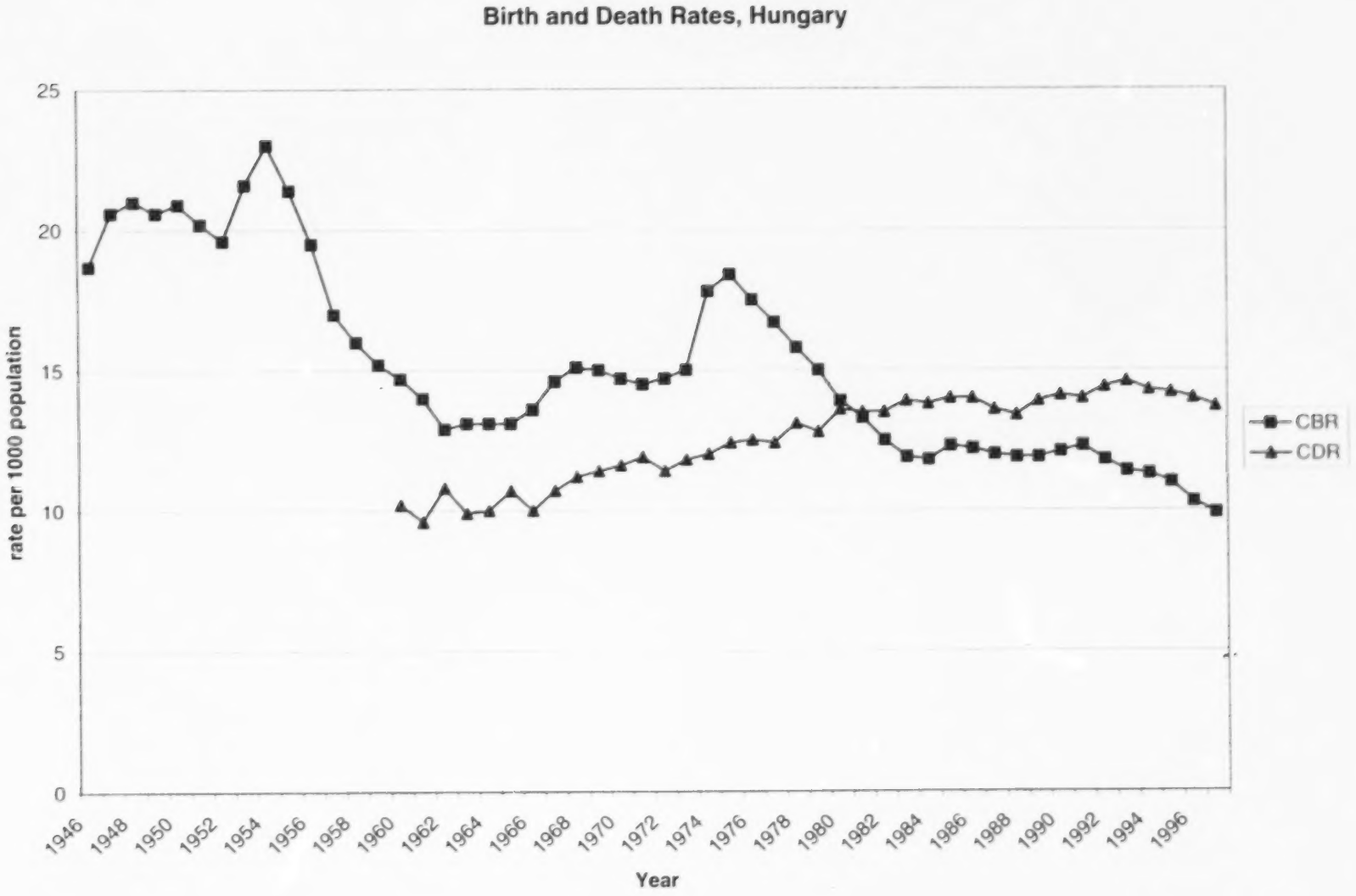
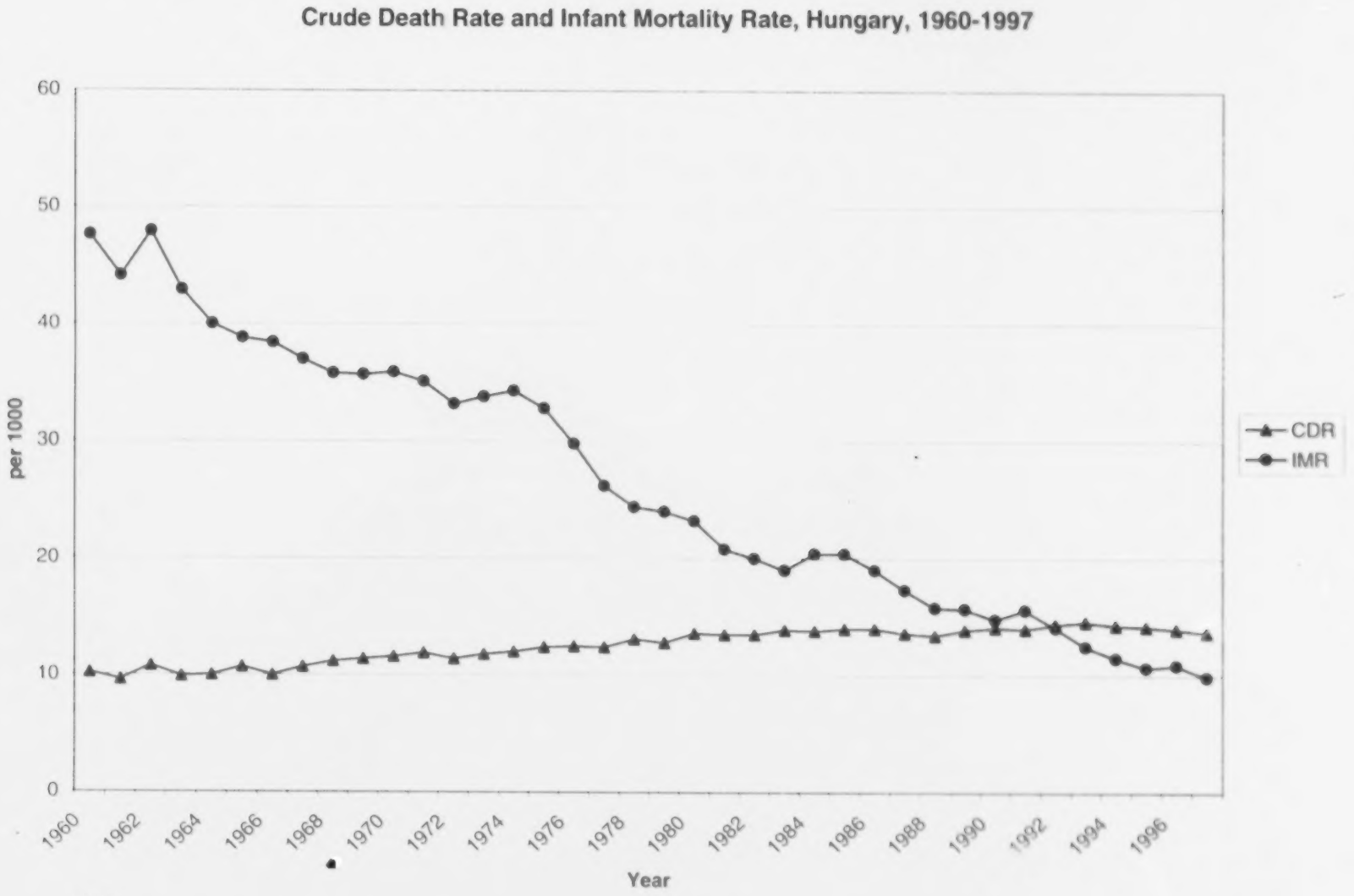

Birth and Death Rates, Hungary
rate per 1000 population
25
20
15
10
5
0
1946
1948
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year
CBR
CDR

Figure D

Infant Mortality Rate, Hungary, 1960-1997

Figure 3


Crude Death Rate and Infant Mortality Rate, Hungary, 1960-1997
60
50
40
30
20
10
0
per 1000
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
Year
CDR
IMR